

Abstracts

67

compared to calcitonin and alendronate. Furthermore, hazard ratios showed that patients taking ERT, raloxifene, or alendronate were approximately 83% less likely to experience fracture at any point in time compared to calcitonin.

PAM3**THE COST OF OSTEOPOROTIC FRACTURES IN THE UNITED KINGDOM**

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BACKGROUND: The UK has more than 19 million people aged over 50, including about 9.4 million aged over 65. Demographic changes will lead to increases in the over-50 population of 10% and 25% by 2010 and 2020, respectively. There are already 3 million UK residents with osteoporosis, but the prevalence of osteoporosis increases with age, and the public health impact of osteoporosis will increase substantially over the next 20 years. **OBJECTIVE:** To predict fracture numbers and corresponding costs for men and women aged 50–99 years in the UK for the years 2000 to 2020. **METHODS:** A Markov model was designed to simulate the natural history of osteoporosis within the UK population. Inputs to the model included age/sex specific fracture incidence rates, published unit costs for different fracture types (hip, vertebral, forearm/wrist, other), age/sex specific mortality rates, and age/sex specific population totals. Total fracture numbers were adjusted using published site-specific attribution figures to identify the number that were a consequence of osteoporosis. Iteration techniques were employed across ages 50–99 in men and women, to generate the distribution of prevalence-based estimates of fractures and costs for the base year 2000. Osteoporosis costs and fracture numbers were then projected into future years by applying growth rates in age/sex specific population totals to these year 2000 estimates. **RESULTS:** In 2000 there were 190,000 osteoporosis-related fractures at a cost of £1.8 billion. Men accounted for 32,000 fractures and £330 million. By 2020, annual osteoporotic fracture numbers increased by over 21% to 230,000, with costs growing by 20% to over £2.1 billion. Cumulative totals for 2000–2010 were 2.2 million fractures and £20.3 billion. **CONCLUSIONS:** Osteoporotic fractures will have substantial and increasing impacts on UK health services unless highly effective preventative interventions achieve widespread use.

PAM4**USE OF COX 2 NSAIDS IN SUBJECTS WITHOUT RISK OF GASTROINTESTINAL SIDE EFFECTS**

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OBJECTIVE: While Cox 2 inhibitors have a theoretical advantage over other nonsteroidal anti-inflammatory drugs (NSAIDs) by reducing gastrointestinal (GI) side effects, not all individuals are at increased risk of GI complications and therefore may benefit equally from non-Cox 2 specific NSAIDs. This study determined the use of Cox 2 inhibitors by subjects with no identifiable GI risk. The cost of this “inappropriate use” was estimated. **METHODS:** This was a longitudinal claims data analysis using 1999 medical, pharmacy and enrollment data from a large national health plan. Subjects were identified as either Cox 2 users (n = 23,190) or other NSAID users (n = 192,079) from pharmacy claims, and total NSAID costs were calculated for a six-month period. **RESULTS:** Cox 2 users were more likely to have a GI risk factor, (prior GI events, age over 60 years, chronic NSAID use of two or more prescriptions in the six months prior to the first Cox 2 claim, and prior corticosteroid use) compared to other NSAID users. Because individuals with arthritis may require on-going NSAID use, a diagnosis of arthritis (OA or RA) was also considered a risk factor for GI complications. Having an arthritis diagnosis was more likely among Cox 2 users compared to other NSAID users (44.1% and 13.0% respectively). Twenty-six percent of Cox 2 users had neither a discernable GI risk nor an arthritis diagnosis. An unadjusted cost comparison between Cox 2 subjects with no GI risk and no arthritis and similar other NSAID subjects found a significant mean difference of \$131 per person in NSAID costs for six months. **CONCLUSIONS:** Despite health plan policies to manage the use of Cox 2 inhibitors, a quarter of Cox 2 users appeared to be inappropriate. The total health system cost of this potentially inappropriate use was \$775,000 for six months.

PAM5**INVESTIGATING THE CONSTRUCT VALIDITY OF A DISEASE SPECIFIC AND A GENERAL QUALITY OF LIFE INSTRUMENTS OF PATIENTS WITH RHEUMATOID ARTHRITIS**

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OBJECTIVES: Quality of life is a key parameter in describing the health status patients of rheumatoid arthritis. Construct validity of a generic (EQ-5D) and a disease specific (RAQoL) quality of life instrument was tested with the intention of further use in clinical and health economic trials and burden of disease studies in Hungary. **METHODS:** RAQoL and EQ-5D have been recently adapted into Hungarian. Authors analysed the demographic and QoL data from a cross-sectional postal survey of patient with rheumatoid arthritis. The convergent validity of EQ-5D, RAQoL scores has been compared to functional measurement scores from the Health Assessment Questioner (HAQ). Pearson correlation coef-

ficients were used to assess the level of association. **RESULTS:** 81 patients participated in the study. Mean age of the sample was 57.3 (SD = 10.1) years, 89% (n = 72) were female. The average disease duration among patients was 14.5 (SD = 10.6) years. RAQoL scores were relatively strongly correlated (Pearson coefficient = 0.662) with HAQ scores. The EQ-5D index scores showed higher correlation (0.627) with HAQ than the Visual Analogue Scale of EQ-5D (0.463). The Pearson Correlation Coefficient between RAQoL and EQ-5D index scores was 0.515, and between RAQoL and EQ-5D VAS scores was 0.396. **CONCLUSIONS:** Results suggest that the Hungarian RAQoL is a valid instrument of measuring QoL of rheumatoid arthritis patients. The EQ-5D index provides also appropriate results, and can be proposed for cost-utility analyses. However EQ-5D VAS scores are not recommended to describe the QoL of patients with rheumatoid arthritis.

PAM6

COST-EFFECTIVENESS OF ROFECOXIB VERSUS NSAIDS IN THE TREATMENT OF OSTEOARTHRITIS

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OBJECTIVES: The purpose of this study is to examine the cost-effectiveness (CE) of rofecoxib versus NSAIDs in the treatment of osteoarthritis. **METHODS:** The authors used decision-analysis from a societal perspective to model a hypothetical cohort of osteoarthritis patients on long-term NSAID therapy. Incremental cost per QALY (C/QALY) estimates were calculated for a hypothetical trial population and for patients at high risk of G.I. adverse events. High-risk patients were defined in the literature as having four risk factors combined: history of G.I. bleeds, history of peptic ulcer, cardiovascular disease and age 75 years or greater. All costs were expressed in 1997 prices. Utility estimates were obtained from a separate analysis of pharmacy claims data including the Health Utilities Index Mark 2 from a large HMO. Confidence intervals were assessed using the maximum and minimum values from the literature. Univariate sensitivity and threshold analysis were conducted. **RESULTS:** The C/QALY range is \$5,658 to \$108,831 for osteoarthritis patients; base case C/QALY is \$103,597 for all osteoarthritis patients, -\$9,374 for high-risk patients. Rofecoxib is cost-effective (C/QALY ≤ \$50,000) if the incidence of perforations, ulcers and bleeds (PUB) is 0.098 per year or greater. Sensitivity: the most sensitive parameters were: symptomatic dyspepsia utility; rofecoxib price; symptomatic peptic ulcer utility; incidence of G.I. symptoms; NSAID price and incidence of PUBs. However, the parameters with greatest uncertainty and variability in the literature are incidence of PUBs and G.I. symptoms. **CONCLUSION:** The point estimate C/QALY of rofecoxib for all osteoarthritis patients varies from very cost-effective to not cost-effective depending on assumptions

for the probability of PUBs and G.I. symptoms. Rofecoxib is cost saving for patients at high risk of developing G.I. complications.

PAM7

THE CORRELATION BETWEEN ARTHRITIS SPECIFIC MEASURES AND SF-36 SCALES IN RHEUMATOID ARTHRITIS PATIENTS

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OBJECTIVE: To evaluate the correlation between general measures of function and well-being, as measured by the 8 domains of the SF-36, with arthritis specific measures of function and symptom frequency. **METHODS:** We identified 606 patients from a longitudinal, observational study of RA (RAPOLO). Patients completed telephone interviews about arthritis specific function (HAQ, RA Status and Symptoms), the SF-36 domains, Physical and Mental Summary Scores (PCS, MCS) and the Arthritis Specific Health Index (ASHI). We present correlations between the SF-36 domains, PCS, MCS and ASHI with selected arthritis measures. All correlations are presented as absolute values. **RESULTS:** All correlations were in the anticipated direction. A correlation >0.6 = good-excellent, and <0.4 = below average. The HAQ was highly correlated with the SF-36 physical scales, and had weak correlations with the emotional function scales and the ASHI. Other arthritis specific scales (joint swelling, joint pain, morning stiffness, RA fatigue and RA pain) were strongly correlated with the ASHI, the SF-36 pain, physical function, role function-physical and energy/fatigue scales; and had weak correlations with the emotional functioning and general health scales. **CONCLUSIONS:** In RA patients, the SF-36 measures aspects of functioning and well-being not covered by the arthritis specific measures, especially in the areas of emotional functioning. This is indicated by the moderate to weak correlations between the arthritis specific measures and the domains of emotional function, role emotional function, and mental health and the MCS.

PAM8

COST COMPARISON OF TREATING OSTEOPOROSIS PATIENTS WITH ESTROGENS OR SELECTIVE ESTROGEN RECEPTOR MODULATOR IN A MANAGED CARE POPULATION

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OBJECTIVE: To compare osteoporosis treatment charges among patients treated with an estrogen versus a selective estrogen receptor modulator (SERM) in a managed care population. **METHODS:** Patients 40 years of age with a